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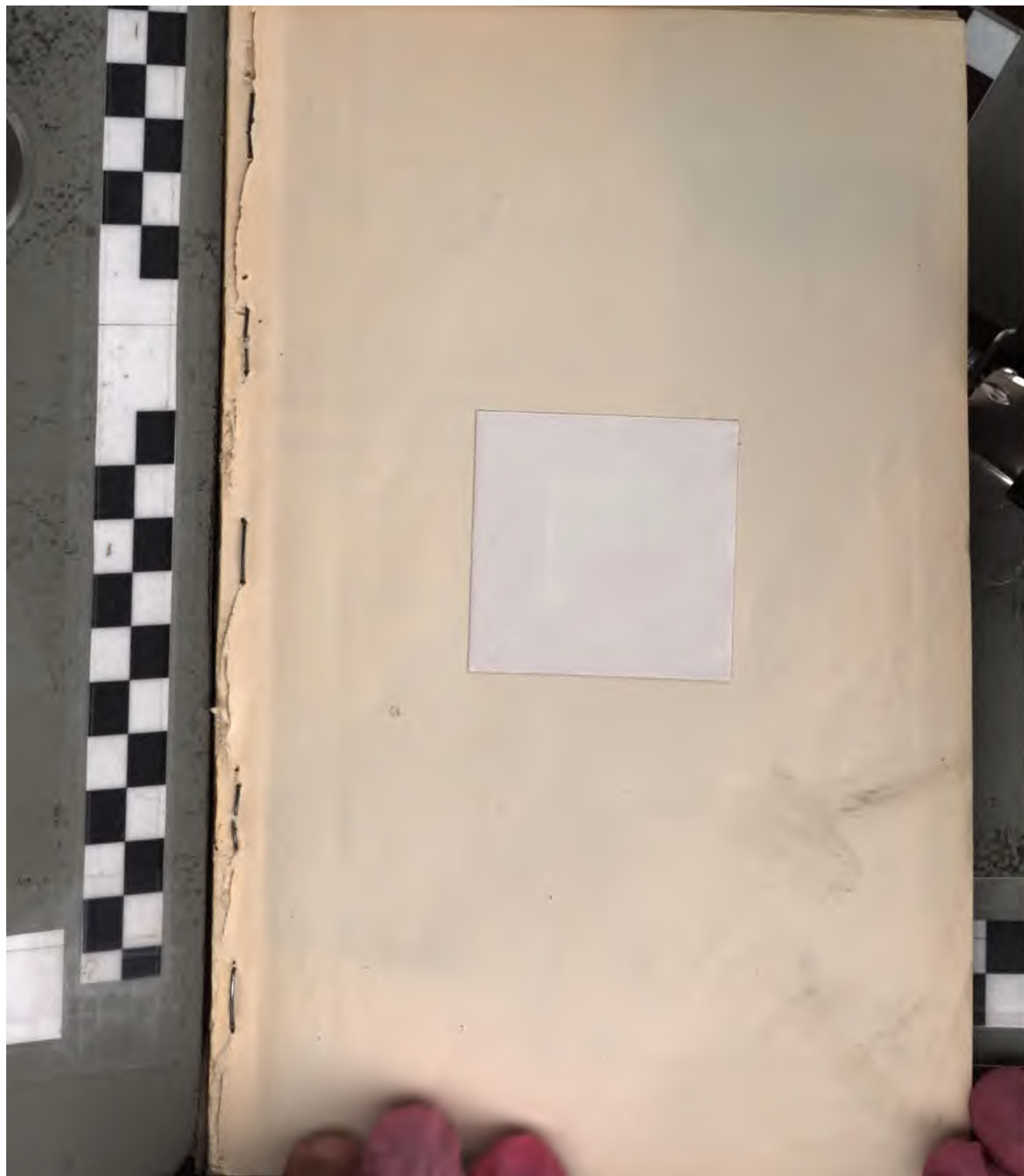
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RELIEF MAP OF CALIFORNIA

BY

N. F. DRAKE

Department of Geology,
Stanford University,

Accompanying Bulletin No. 46

General Index to Publications
California State Mining Bureau

Issued by the

CALIFORNIA STATE MINING BUREAU

LEWIS E. AUBURY

State Mineralogist

1907



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SAN FRANCISCO, JUNE, 1907

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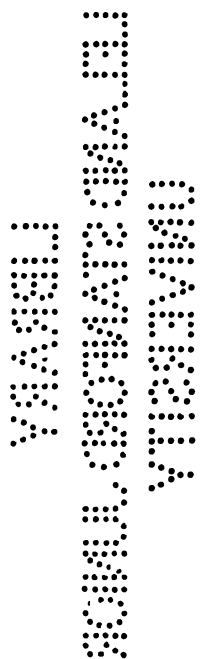


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1907

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LETTER OF TRANSMITTAL.

To HON. J. N. GILLETT, Governor of California, and to the Board of Trustees of the State Mining Bureau.

GENTLEMEN: I have the honor to transmit Bulletin No. 46, "A General Index to the Publications of the State Mining Bureau."

Since the organization of the Bureau, a large number of Reports, Bulletins, Maps, etc., have been published, and in order to assist the public in a knowledge of what these publications contain, it has been deemed best to issue a bulletin of their contents.

Very respectfully,

L. E. AUBURY,
State Mineralogist.

SAN FRANCISCO, June 15, 1907.

GENERAL INDEX

TO

PUBLICATIONS OF THE CALIFORNIA STATE MINING BUREAU.

Compiled by **CHARLES G. YALE.**

The following index to the various Reports, Bulletins, Registers, etc., issued by the State Mining Bureau from its organization to June, 1907, is very general in its nature, not being intended to closely follow detail. It should be understood that each separate Report and Bulletin is carefully indexed in detail, such index being published with the respective volumes. Moreover, in the later Reports and in all Bulletins and Registers, subjects, mines, and counties have been arranged in alphabetical order. The names of mines, even, are alphabetically arranged in the respective counties, as are the various mineral substances. This being the case, there has been found no need for an extended detail index covering all the contents of all the publications of the Bureau. This general index is intended only to indicate in which volume special articles on various topics can be found; to give the dates of Reports and Registers; the names and numbers of Bulletins; and the names of maps printed separately, or with the text, or as folders in the volumes. The names of authors are also indexed, with the titles of the chapters, bulletins, or articles they have prepared. Where chapters have been prepared by the State Mineralogist, or his assistants, in various reports, and are merely descriptions of mines, districts, etc., and appear in alphabetical order without name of author, they are not named in this general index. All special articles having the name of the author, however, have been indexed by both title and author.

No attempt has been made to index, for instance, the chapters on gold mining, forming so large a portion of most of the Reports. Nor are the names of mines or counties indexed. These are already alphabetically arranged in the respective volumes. Those looking for records or descriptions of particular mines must seek them under the county headings in the various volumes or in the index to said volumes. By looking in the 13th Report—1896—the system adopted may be readily

understood. Since that time Bulletins on single subjects have been issued, and the contents of each have been alphabetically arranged by subject and county, and suitably indexed.

In referring to volumes in this index it is to be borne in mind that the figures following the words indicate the number of the Report; and the prefix "Bul." before a figure indicates the number of the Bulletin. For example, "Antimony, 12, 13, Bul. 38" indicates special references to this metal in the 12th and 13th Reports and in Bulletin No. 38, and the page may be found by reference to the index of said Reports and Bulletin. It does not follow, however, that antimony is nowhere else mentioned in the publications of the Bureau, because there may be a number of brief references to its occurrences in the various Reports which would be shown in the index of the Report where such reference is made. With respect to Structural and Industrial Materials, what appeared relating to them in all previous Reports and Bulletins has been incorporated in and summarized in Bulletin No. 38.

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Butte County. W. E. Thomas. Prepared 1903.

Calaveras County. W. H. H. Penniman. Prepared 1899.

El Dorado County. J. F. Armstrong. Prepared 1902.

Inyo County. A. V. Davidson. Prepared 1902.

Kern County. Marion Aubury. Prepared 1904.

Lake County. George Madeira. Prepared 1901.

Mariposa County. E. M. Wilkinson. Prepared 1903.

Nevada County. Charles E. Uren.

Placer County. I. H. Parker. Prepared 1902.

Plumas County. J. A. Edman. Prepared 1898.

San Bernardino County. G. E. Bailey. Prepared 1902.

San Diego County. I. A. Hubon. Prepared 1902.

Santa Barbara County. Lew B. Harris. Prepared 1906.

Shasta County. M. E. Dittmar. Prepared 1902.

Sierra County. Geo. F. Taylor. Prepared 1903.

Siskiyou County. J. M. Davidson. Prepared 1898.

Trinity County. W. S. Lowden. Prepared 1898.

Tuolumne County. R. P. McLaughlin. Prepared 1903.

Yuba County. Lew B. Harris. Prepared 1905.

Register of oil wells of Los Angeles County. C. E. Blackmar. Prepared 1903.

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Reports of State Mineralogist. First. Henry G. Hanks. Published 1880.

Second. Henry G. Hanks. Published 1882.

Third. Henry G. Hanks. Published 1883.

Fourth. Henry G. Hanks. Published 1884.

Fifth. Henry G. Hanks. Published 1885.

Sixth, part 1. Henry G. Hanks. Published 1887.

Sixth, part 2. Wm. Irelan, Jr. Published 1887.

Seventh. Wm. Irelan, Jr. Published 1888.

Eighth. Wm. Irelan, Jr. Published 1888.

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Tenth. Wm. Irelan, Jr. Published 1890.

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Twelfth. J. J. Crawford. Published 1894.

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HENRY G. HANKS,

State Mineralogist from May, 1880, to May, 1886.

First Annual Report of the State Mineralogist, from June 1, 1880, to December 1, 1880. Sacramento, 1880. 43 pp.

Origin of Bureau.
State Geological Society.
Black sands.

Second Annual Report of the State Mineralogist, from December 1, 1880, to October 1, 1882. Sacramento, 1882. 288 pp. in main report and 226 pp. in appendix; total, 514 pp. 4 illustrations. One map of mud volcanoes.

Hydraulic mining.
Drift mining.
Assay of gold.
Iron ores of California.
Beach sands.
Salt in California.
Mud volcanoes of Colorado Desert.
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Geology and ethnology of the Pacific Slope.
Glossary of mining terms.
Rare minerals recently found in the State, by W. L. Blake. (Appendix.)*
On the milling of gold quartz, by Melville Attwood. (Appendix.)*
Forest trees of California, by Dr. A. Kellogg. (Appendix.)*
Notes on hydraulic mining, by F. W. Robinson. (Appendix.)*
Hydraulic and drift mining, by H. DeGroot. (Appendix.)*
Flour gold, by A. B. Paul. (Appendix.)*

Catalogue of the State Museum of California, Vol. I, being the collections made by the State Mining Bureau for the year ending April 16, 1881. Sacramento, 1882. (Revised and reprinted 1888.) 220 pp.

* These papers appear to have been originally printed separately, and then bound together in the Second Report as an appendix.

Third Annual Report of the State Mineralogist for the year ending June, 1883. Sacramento, 1883. 111 pp. 21 illustrations.

Part I. Condition of Bureau.

Death of Joseph Wasson.

Gold in tailings.

Microscopic slides alluvial gold.

Part II. Borax deposits of California and Nevada. Report says (p. 8) a map of borax deposits of both states is published, but it is *not* found in said report.

Fourth Annual Report of the State Mineralogist, for the year ending May 15, 1884. Sacramento, 1884. 410 pp. 7 illustrations.

History of Geological Surveys of California.

Names of State Geologists and Mineralogists.

Resources of California.

History of early gold discoveries in California.

Catalogue and description of minerals of California, with descriptions and localities alphabetically arranged.

Table of fineness of California gold.

Iron ores of California.

History of petroleum in California.

Quicksilver deposits of California.

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Sulphur in California.

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Chrome ores.

Clays of California.

Diamonds in California.

Gold, assaying.

Lead in California.

Fifth Annual Report of the State Mineralogist, for the year ending May 15, 1885. Sacramento, 1885. 234 pp. 15 illustrations. 1 geological map. 4 sections of San Diego, Orange and San Bernardino counties.

The report gives an account of the State Mining Bureau's exhibit at the New Orleans Exposition, and notes with reference to exhibits from other States.

Hanksite.

Minerals of California.

World's fairs or expositions.

Testing quantity of gold in ore.

Iron ores in California.

Catalogue of State Museum of California, Vol. II, being collections made by the State Mining Bureau from April 16, 1881, to May 15, 1884. Sacramento, 1885. 220 pp.

Sixth Annual Report of State Mineralogist, for the year ending June 1, 1886. Part I. Sacramento, 1886. 145 pp. 3 illustrations. 1 sketch map Julian District, San Diego County.

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San Diego County.

List of California minerals, with descriptions.

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WILLIAM IRELAN, Jr.,*State Mineralogist from June, 1886, to February, 1893.*

Sixth Annual Report of the State Mineralogist, for the year ending June 1, 1886. Part II. Sacramento, 1887. 222 pp. 36 illustrations.

Review by counties.
 Mine drainage, by Charles G. Yale.
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 Finding value of a specimen, by C. H. Aaron.
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Catalogue of the State Museum of California, Vol. III, being the collections made by the State Mining Bureau from May 15, 1884, to March 31, 1887. Sacramento, 1887. 195 pp.

Seventh Annual Report of the State Mineralogist, for the year ending October 1, 1887. Sacramento, 1888. 315 pp. 10 illustrations.

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 Petroleum refining.
 Petroleum, asphaltum, and natural gas.
 Coal in California, by W. A. Goodyear.
 Natural gas in California.
 Building stones of California.
 Catalogue of California fossils, by J. G. Cooper. Part I.

Eighth Annual Report of the State Mineralogist, for the year ending October 1, 1888. Sacramento, 1888. 948 pp. 122 illustrations.

Mineral resources of State, by counties.
 The Fresno Valley earthquake, by W. A. Goodyear.
 History of Mount Whitney, by W. A. Goodyear.
 History of Public mines.
 Tabular statement of California quartz mills.
 Shipping of gold ores to California, by John Hays Hammond.
 Gold mining in California, by Russell L. Dunn.
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 Water works, by E. P. Thomas.
 Tables on Western lead smelting, by W. S. Keyes.
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 Tables on hydrometallurgy of gold, by C. H. Aaron.
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 Natural and artificial cement.
 Building stones, by A. W. Jackson.

Ninth Annual Report of the State Mineralogist, for the year ending October 1, 1889. Sacramento, 1889. 41 pp. 6 plates.

**Ninth Annual Report of the State Mineralogist, for the year ending
December 1, 1889. Sacramento, 1890. 57 illustrations. 2 maps.**

Map of Santa Cruz Island.
 Map of Anacapa Island.
 Geological Surveys in California, by H. I. Willey.
 San Nicolas Island, by Stephen Bowers.
 Refining and coining precious metals, by S. Gumbinner.
 Auriferous gravels of California, by John Hays Hammond.
 Statistics of mining ditches in the State.
 Santa Cruz Island, by W. A. Goodyear.
 Geology of the Channel Islands of California, by Lorenzo G. Yates.
 Mollusca of the Channel Islands of California, by Lorenzo G. Yates.
 Insular flora, by Lorenzo G. Yates.
 Pottery in California, by Linna Irelan.
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 Slate quarrying in California.
 Value of fossils as indicating mineral products, by J. G. Cooper.
 Clays, by W. D. Johnston.
 California cements.
 Glass manufacture in California, by H. DeGroot.

**Tenth Annual Report of the State Mineralogist, for the year ending
December 1, 1890. Sacramento, 1890. 983 pp. 179 illustrations.
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Topographical and geological map of California.
 Map of gold quartz mines near Grass Valley, Nevada City, and Banner
 Mountain, by J. B. Hobson.
 Geological map of Nevada County, by J. B. Hobson.
 Geological map of Placer County, by J. B. Hobson.
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 Review and description of mining districts and mines of California, by
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 Geology of Mother Lode region, by H. W. Fairbanks.
 Iron in Fresno County, by L. P. Goldstone.
 Pico Cañon oil fields, by Edward North.
 Water resources of Nevada County, by J. B. Hobson.
 Ancient river beds of the Forest Hill Divide, by Ross E. Browne.
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 Location of mines, by R. P. Hammond, Jr.
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Catalogue of the State Museum of California, Vol. IV, being the collections made by the State Mining Bureau from March 31, 1887, to August 20, 1890. Sacramento, 1890. 261 pp.

Catalogue of the Library of the State Mining Bureau, San Francisco, September 1, 1892. Sacramento, 1892. 149 pp.

Eleventh Report (First Biennial) of the State Mineralogist, for the two years ending September 15, 1892. Sacramento, 1893. 612 pp. 73 illustrations. 4 maps.

Geological map of Shasta County, by H. W. Fairbanks.

Geological map of parts of San Diego, Orange and San Bernardino counties, by H. W. Fairbanks.

Topographical map of Golden Feather Channel, Butte County.

Map of the Georgetown Divide, El Dorado County.

Editor's report to Board of Examiners, by Charles G. Yale.

Review of mines of the State, by counties.

Geology and mineralogy of Shasta County, by H. W. Fairbanks.

Geology of Tehama, Colusa, Lake, and Napa counties, by H. W. Fairbanks.

Geology of parts of San Diego, Orange, and San Bernardino counties, by H. W. Fairbanks.

Golden Feather Channel Company, by E. B. Preston.

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Mineral springs in Siskiyou County, by W. L. Watts.

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Origin, development, and establishment of American mining law, by A. H. Ricketts.

JAMES J. CRAWFORD,

State Mineralogist from February, 1893, to February, 1897.

Twelfth Report (Second Biennial) of the State Mineralogist, for the two years ending September 15, 1894. Sacramento, 1894. 541 pp. 101 illustrations. 5 maps.

Map of channel system of Harmony Ridge, Nevada County, by Ross E. Browne.

Map of principal gravel channels near Placerville, by R. Rowlands.

Map of Auriferous conglomerate deposits, Siskiyou County, by R. L. Dunn.

Map of Ancient channel systems of Calaveras County, by W. H. Storms.

Map of the Auriferous conglomerate deposit between San Andreas and Mokelumne Hill, Calaveras County, by W. H. Storms.

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Emery.

Mineral paint.

Natural carbonic acid gas.

Pectolite.

Platinum.

Salt.

Soda.

Determining amount of gold in specimens.

Electric transmission plants in mining operations, by Thomas H. Leggett.

Red Rock, Goler and Summit districts, Kern County, by H. W. Fairbanks.

Auriferous conglomerate in California, by R. L. Dunn.

Mineral deposits of Inyo, Mono, and Alpine counties, by H. W. Fairbanks.

Geology of a portion of El Dorado County, by H. W. Fairbanks.

Ancient channel system of Calaveras County, by W. H. Storms.

Geology of northern Ventura, Santa Barbara, San Luis Obispo, Monterey and San Benito counties, by H. W. Fairbanks.

State Mining Bureau Act.

Mine bell signals.

Hydraulic Mining Definition Act.

Caminetti Act.

Debris Commissioner Act.

Bulletin No. 2. Methods of mine timbering, by W. H. Storms. San Francisco, June, 1894. Sacramento, 1894. 58 pp. 75 illustrations. (Second edition issued 1896.)

Bulletin No. 3. Gas and petroleum yielding formations of the Central Valley of California, by W. L. Watts. San Francisco, August, 1894. Sacramento, 1894. 100 pp. 13 illustrations. 4 maps.

Map of Great Central Valley of California, by W. L. Watts.

Sketch map of Sunset oil claims, by W. L. Watts.

Sketch map of asphaltum veins of Asphalto, by W. L. Watts.

Sketch map of oil claims near Coalinga, by W. L. Watts.

Bulletin No. 4. Catalogue of California fossils, by J. G. Cooper. Part II, III, IV, and V. Sacramento, 1894. 73 pp. 67 illustrations. (Part I was published in the Seventh Annual Report of the State Mineralogist, 1887.)

Part II. Bibliography and references.

Part III. Additions to catalogue since 1888.

Part IV. Remarks on fossils from Orange County.

Part V. Description and figures of new species of California fossils.

Bulletin No. 5. The cyanide process, its practical application and economical results, by Dr. A. Scheidel. San Francisco, October, 1894. Sacramento, 1894. 140 pp. 46 illustrations.

Catalogue of West North American and many foreign shells, with their geographical ranges, by J. G. Cooper. San Francisco, April, 1894. Sacramento, 1894.

Bulletin No. 6. California gold mill practices, by E. B. Preston. San Francisco, September, 1895. Sacramento, 1895. 85 pp. 55 illustrations.

Bulletin No. 7. Mineral production of California, by counties, for the year 1894, by Charles G. Yale. Sacramento, 1895. Tabular sheet.

Bulletin No. 8. Mineral production of California, by counties, for the year 1895, by Charles G. Yale. Sacramento, 1896. Tabular sheet.

Gold production of California from 1848 to 1895, by Charles G. Yale. Sacramento, 1895. Tabular sheet.

Map of Mother Lode region, by H. W. Fairbanks. Prepared in 1890. Re-issued, with additions, January 1, 1896. Sacramento, 1896.

Bulletin No. 9. Mine drainage, pumps, etc., by Hans C. Behr. San Francisco, August, 1896. Sacramento, 1896. 210 pp. 206 illustrations.

Thirteenth Report (Third Biennial) of the State Mineralogist, for the two years ending September 15, 1896. Sacramento, 1896. 726 pp. 93 illustrations. 1 map.

Geological map of Mother Lode belt in El Dorado County, by H. Lahiff.

Antimony.

Argentiferous galena.

Asphalt and bituminous rock.

Borax.

Thirteenth Report (Third Biennial)—*Continued.*

- Chromic iron.
- Coal.
- Copper.
- Gold (by counties). In Gold chapter are following miscellaneous subjects:
 - Tailings sampler.
 - Toms for beach sands.
 - Tailings, washing.
 - Steam shovel.
 - Diestelhorst dredge.
 - Current wheels.
 - Arastra, double.
 - Conveyor reel.
 - Rock conveyor for hydraulic mines.
 - Steel-capped riffle bars.
 - Water blast.
 - Ore drier.
- Gypsum.
- Iron.
- Magnesite.
- Manganese.
- Mineral springs, analyses.
- Mining canals.
- Natural gas.
- Petroleum.
- Quicksilver.
- Structural materials.
 - Asbestos.
 - Chrysoprase.
 - Diamonds.
 - French chalk.
 - Graphite.
 - Infusorial earth.
 - Mineral paint.
 - Platinum.
 - Salt.
 - Soda.
 - Sulphur.
 - Zinc.
- Preservation of structural timbers, by John D. Isaacs.
- Methods of refining petroleum, by F. Salathé.
- Oil as fuel in Los Angeles County, by W. L. Watts.
- Ore deposits with reference to Mother Lode, by H. W. Fairbanks.
- Electric power transmission plants in California, by W. F. C. Hasson.
- Sampling and measurement of ore bodies in mine examinations, by E. B. Kirby.
- Comstock ore sampling, by John D. McGillivray.
- Water power and compressed air transmission plant at North Star Mine, by A. D. Foote.
- Compressed air as motive power, by J. W. Buell.
- Act for constructing and repairing restraining barriers in California rivers.

Bulletin No. 10. Bibliography relating to the geology, paleontology and mineral resources of California, by A. W. Vogdes. San Francisco, September, 1896. Sacramento, 1896. 121 pp.

Bulletin No. 11. Oil and gas yielding formations of Los Angeles, Ventura, and Santa Barbara counties, by W. L. Watts. San Francisco, December, 1896. Sacramento, 1897. 94 pp. 6 maps.

Geological map of Los Angeles County, by W. L. Watts.

Geological map of West Los Angeles, by W. L. Watts.

Geological map of Puente oil field, by W. L. Watts.

Geological map of Ventura County oil deposits, by W. L. Watts.

Map of cross-section of Santa Paula Cañon, by W. L. Watts.

Geological map of oil districts S. E. Santa Barbara County, by W. L. Watts.

Water blast.

Water blast and reflector.

List of fossils.

A. S. COOPER,

State Mineralogist from February, 1897, to February, 1901.

Bulletin No. 12. Mineral production of California, by counties, for 1896, by Charles G. Yale. Sacramento, 1897. Tabular sheet.

Gold production of California, 1848 to 1896, by Charles G. Yale. Sacramento, 1896. Tabular sheet.

Bulletin No. 13. Mineral production of California, by counties, for 1897, by Charles G. Yale. Sacramento, 1898. Tabular sheet.

Gold production of California, 1848 to 1897, by Charles G. Yale. Sacramento, 1897. Tabular sheet.

Bulletin No. 14. Mineral production of California, by counties, for 1898, by Charles G. Yale. Sacramento, 1899. Tabular sheet.

Gold production of California, 1848 to 1898, by Charles G. Yale. Sacramento, 1898. Tabular sheet.

Bulletin No. 15. Map of Oil City fields, Fresno County, by John. H. Means. Sacramento, 1899.

Bulletin No. 16. The genesis of petroleum and asphalt in California, by A. S. Cooper. San Francisco, December, 1899. Sacramento, 1899. 39 pp. 29 illustrations.

Also contains a chapter on "Prospecting for petroleum."

Bulletin No. 17. Mineral production of California, by counties, for 1899, by Charles G. Yale. Sacramento, 1900. Tabular sheet.

Gold production of California, from 1848 to 1899, by Charles G. Yale.
Sacramento, 1899. Tabular sheet.

Bulletin No. 18. Mother Lode region of California, by W. H. Storms.
San Francisco, October, 1900. Sacramento, 1900. 154 pp. 49 illustrations.

- Geology of the gold belt.
- Divisions of the gold belt.
- Classification of rocks.
- Methods of mining.
- Cost of mining.
- Mining machinery.
- Code of mine bell signals.
- Canvas tables.
- Slime plants.
- Mill screen frames.
- Regulating height of discharge in mills.
- Methods of timbering.
- Chlorination works.

Bulletin No. 19. Oil and gas yielding formations of California, by
W. L. Watts. San Francisco, November, 1900. Sacramento, 1900.
236 pages. 60 illustrations. 8 maps.

- Geological map of the Puente Hills, by W. L. Watts.
- Geological map of foothills Santa Ana Mountains, by W. L. Watts.
- Geological map of Los Angeles oil fields (2), by W. L. Watts.
- Geological map of Peninsula of San Pedro, by W. L. Watts.
- Geological map of southeastern portion of Orange County, by W. L. Watts.
- Geological map of territory between Sespe and Piru creeks, by W. L. Watts.
- Geology of the oil districts.
- Production and prospective wells in the counties.
- San Joaquin Valley.
- Description and condition of the counties.
- Pipe-lines and refineries.
- Geographical and geological range of oil-yielding formations.
- Character and fuel values of California oils.
- Review of petroleum industry of California.

Catalogue of the State Museum of California, Vol. V, being the collections made by the State Mining Bureau from September, 1890, to May 30, 1897. Sacramento, 1899.

Report of Board of Trustees for four years ending September 1, 1900.
15 pages. Sacramento, 1901.

Bulletin No. 20. Synopsis of general report State Mining Bureau, by
W. L. Watts, Sacramento, 1901. 21 pp. (Not issued for general distribution.)

LEWIS E. AUBURY,

State Mineralogist, February, 1901 (Incumbent, June, 1907).

Bulletin No. 21. Mineral production of California, by counties, for 1900, by Charles G. Yale. Sacramento, 1901. Tabular sheet.

Bulletin No. 22. Mineral production of California, for fourteen years, 1887 to 1900, by Charles G. Yale. Sacramento, 1901. Tabular sheet.

Gold production of California, from 1848 to 1900, by Charles G. Yale. Sacramento, 1900. Tabular sheet.

Reconnaissance of the Colorado Desert mining districts, by Stephen Bowers. Sacramento, 1901. 19 pp. 2 illustrations.

Bulletin No. 23. The copper resources of California, by Lewis E. Aubury. San Francisco, April, 1902. Sacramento, 1905. 282 pp. 69 illustrations. 9 maps.

Relief map of California.

Map of part of Shasta County copper belt.

Map of Sulphide Copper District, Shasta County.

Geological map of western part of Shasta County copper belt.

Geological map of eastern and central parts of Shasta County copper belt.

Map of Island Mountain Cons. Copper Mines.

Sketch map of Mineral Hill group of mines.

Map of Green Mountain group of mines.

Map of known copper deposits of California.

The copper ores.

Historical notes.

Geology of copper belt of Shasta County.

McDougal roasting furnace.

Coast Range copper deposits.

Review by counties, with descriptions of mines.

The Sierra Nevada copper belt.

Southern and eastern copper deposits.

Bulletin No. 24. Saline deposits of California, by G. E. Bailey. San Francisco, May, 1902. Sacramento, 1902. 216 pp. 99 illustrations. 5 maps.

Map of saline deposits of southern portion of California.

Relief map of California.

Map of Lakes Le Conte and Aubury.

Map of Mohawk Desert dry lakes.

Map of California, showing location of saline deposits.

The Great Basin.

Geological history.

Borates.

Historical notes on borates.

Borax production of California.

Borates by counties.

Springs containing borates.

Desert springs, list and location of.

Manufacture of borax.

Borax minerals.

Carbonates.

Natural soda.

Bulletin No. 24—Continued.

Owens lake.
Mineralogy of carbonates.
Salt.
Mineralogy of mineral chlorides.
Salton sea.
Nitrates.
Niter in Chile.
Historical notes on niter.
Chemical notes on niter.
California niter deposits.
Mineralogy of nitrates.
Niter analyses.
Notes on fertilizers.
Elevations.
Bibliography.

Bulletin No. 25. Mineral production of California, by counties, for 1901, by Charles G. Yale. Sacramento, 1902. Tabular sheet.

Bulletin No. 26. Mineral production of California for the past fifteen years, by Charles G. Yale. Sacramento, 1902. Tabular sheet.

Gold production of California, 1848 to 1901, by Charles G. Yale. Sacramento, 1901. Tabular sheet.

Minerals of California, by G. E. Bailey. Sacramento, 1902. 56 pp. 5 illustrations. 20 maps of counties.

Gold production of California, 1848 to 1902, by Charles G. Yale. Sacramento, 1902. Tabular sheet.

Report of Board of Trustees for the year ending June 30, 1901, and year ending June 30, 1902. Sacramento, 1902. 17 pp.

Bulletin No. 27. The quicksilver resources of California, by William Forstner. San Francisco, June, 1903. Sacramento, 1903. 273 pp. 144 illustrations. 8 maps.

Geological map of parts of Napa, Sonoma, and Lake counties quicksilver districts.
Map of Sulphur Creek district.
Condition of the quicksilver industry.
Geology of quicksilver belt of California.
Ore deposits.
Genesis of quicksilver ore deposits.
Districts and mines north of San Francisco.
Districts and mines south of San Francisco.
New Almaden Mine, total output.
Quicksilver in Trinity and other counties.
Metallurgy of quicksilver.
Concentrating system.
Furnaces.
Condensers.
Soot-cleaning machines.
Elevations of mines by counties.

Bulletin No. 28. Mineral production of California, for 1902, by Charles G. Yale. Sacramento, 1903. Tabular sheet.

Bulletin No. 29. Mineral production of California for past sixteen years, by Charles G. Yale. Sacramento, 1903. Tabular sheet.

Bulletin No. 30. Bibliography relating to the geology, paleontology, and mineral resources of California, by A. W. Vogdes. 2d ed. San Francisco, June 30, 1903. Sacramento, 1904. 290 pp.

Publications of State of California.
State Geological Surveys.
Surveyor-General's reports.
State Mining Bureau publications.
California, Senate and Assembly documents.
University of California publications.
Publications of United States Government.
Publications of Senate and House of Representatives.
Reports of Secretary of War.
Navy publications.
Railroad explorations and surveys.
Mineral resources of Western States.
U. S. Mint reports on mineral resources.
Coast Survey reports.
Census reports.
Geological and Geographical Surveys.
U. S. Geological Survey reports.
Smithsonian Institution reports.
National Museum proceedings.
Publications of scientific societies.
Geological Surveys other than California.
Miscellaneous publications. Lists of authors.
Cartography of California.
Maps published by State Mining Bureau.
Authors of works on California mining.

Bulletin No. 31. Chemical analyses of California petroleum, by H. N. Cooper. Sacramento, 1904. Tabular sheet.

Bulletin No. 32. Production and use of petroleum in California, by Paul W. Prutzman. San Francisco, March, 1904. Sacramento, 1904. 230 pp. 116 illustrations. 14 maps.

Map of oil districts of California, by Paul W. Prutzman.
Map of Fullerton oil fields, by Paul W. Prutzman.
Map of Puente oil field, by Paul W. Prutzman.
Map of Whittier oil field, by Paul W. Prutzman.
Map of city oil field of Los Angeles, by C. A. Blackmar.
Map of eastern portion of Newhall oil field, by Paul W. Prutzman.
Map of Summerland oil field, by Paul W. Prutzman.
Map of Kern River oil field, by Paul W. Prutzman.
Map of Sunset oil field, by Paul W. Prutzman.
Map of Midway oil fields, by Paul W. Prutzman.
Map of McKittrick oil fields, by Paul W. Prutzman.

Bulletin No. 32—*Continued.*

Map of Coalinga oil fields, by Paul W. Prutzman.
 Map of Santa Maria oil fields, by Paul W. Prutzman.
 Map of Ventura oil fields, by Paul W. Prutzman.
 History and production of oil in California.
 Topography and geology.
 Drilling.
 Cost of well.
 Field operations.
 Uses of crude oil.
 Physical characteristics of California crude oil.
 Calorific value.
 Use of oil for fuel.
 Economy of use.
 Combustion.
 Evaporative tests.
 Injectors and burners.
 Fireboxes.
 Storage and history.
 Regulation of oil fires.
 Liquid fuel on locomotives.
 Converting coal burners to oil burners.
 Locomotive fuel tests.
 Liquid fuel on steamships.
 Oil-using vessels.
 Government boiler tests.
 Minor uses of fuel oil.
 Petroleum in gas-making.
 Oiled roads.
 Oil-refining industry.
 Refinery oils, analyses.
 Methods of refining.
 Asphalt from oil.
 Chemistry of California petroleum.

Bulletin No. 33. Mineral production of California, by counties, for 1903, by Charles G. Yale. Sacramento, 1904. Tabular sheet.

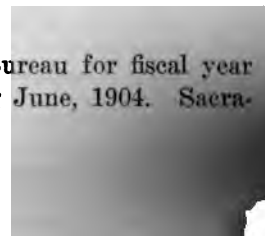
Bulletin No. 34. Mineral production of California for seventeen years, by Charles G. Yale. Sacramento, 1904. Tabular sheet.

Bulletin No. 35. Mines and minerals of California, by Charles G. Yale. Sacramento, 1904. 55 pp. 20 county maps. Relief map of California.

Gold production of California, 1848 to 1904, by Charles G. Yale. Sacramento, 1904. Tabular sheet.

Report of Board of Trustees of State Mining Bureau for fiscal year ending June, 1903, and for fiscal year ending June, 1904. Sacramento, 1904. 13 pp.

Relief and mineral map of California, 1904.



Bulletin No. 36. Gold dredging in California, by J. E. Doolittle. San Francisco, May, 1905. Sacramento, 1905. 120 pp. 66 illustrations. 3 maps.

- Relief map of California.
- Map of dredging lands near Feather River.
- Map of dredging lands in Folsom district.
- History of dredging operations.
- Area of dredge gravels.
- Geology.
- Agriculture.
- Types of dredges.
- Horse power required.
- Screens and sluices.
- Dredge crews.
- Working costs.
- Dredge records.
- Prospecting and examination of conditions.
- Dredge mining districts of California.
- Dredge data.

Bulletin No. 37. Gems, jewelers' materials, and ornamental stones of California, by George F. Kunz. San Francisco, June, 1905. Sacramento, 1905. 168 pp. 54 illustrations.

- Distribution of gem minerals in California.
- Historical outline.
- Properties of gems.
- Localities where found in California.
- Gem mines in California.

Bulletin No. 38. Structural and industrial materials of California, under direction of Lewis E. Aubury, State Mineralogist. San Francisco, January, 1906. Sacramento, 1906. 412 pp. 150 illustrations. 1 map.

- Map showing area of granite outcropping in California.
- Economic features of California building stones.
- Classification of building stones.
- References on California building stones.
- Kinds of building stones in California.
- Selection of building stones.
- Durability of building stones.
- Methods of ascertaining durability of building stones.
- Artificial preservatives.
- Granite.
- Granite quarries and districts in California.
- Limestone and lime.
- Distribution of limestone in California.
- Uses of limestone and lime.
- Limekilns.
- Marble.
- References on California marble.
- Marble distribution in California.
- Sandstone.
- Sandstone quarries in California.

Bulletin No. 41. Mines and minerals of California, for 1904, by Charles G. Yale. Sacramento, 1905. 54 pp. 20 county maps.

Gold production of California, 1848 to 1904, by Charles G. Yale. Sacramento, 1905. Tabular sheet.

Bulletin No. 42. Mineral production of California, by counties, 1905, by Charles G. Yale. Sacramento, 1906. Tabular sheet.

Bulletin No. 43. Mineral production of California for nineteen years, by Charles G. Yale. Sacramento, 1906. Tabular sheet.

Bulletin No. 44. California mines and minerals for 1905, by Charles G. Yale. Sacramento, 1907. 31 pp. 20 county maps.

Report of Board of Trustees and State Mineralogist, covering the fifty-sixth fiscal year ending June 30, 1905, and fifty-seventh fiscal year ending June 30, 1906. Sacramento, 1906. 20 pp.

Map of forest reserves in California. Sacramento, 1907.

Bulletin No. 45. Auriferous black sands of California, by J. A. Edman. Sacramento, 1907. 10 pp.

Bulletin No. 46. General index of publications of the California State Mining Bureau, by Charles G. Yale. Sacramento, 1907.

MAPS AND REGISTERS.

ISSUED DURING ADMINISTRATION OF A. S. COOPER.

Register of mines and minerals, with map, of Plumas County, by J. A. Edman. Data collected 1898. Sacramento, 1900. 36 pp.

Register of mines and minerals, with map, of Calaveras County, by W. H. H. Penniman. Data collected April, 1899. Sacramento, 1900. 50 pp.

Register of mines and minerals, with map, of Siskiyou County, by J. M. Davidson. Data collected February, 1898. Sacramento, 1900. 50 pp.

Register of mines and minerals, with map, of Siskiyou County, by W. S. Lowden. Data collected October, 1898. Sacramento, 1900. 46 pp.

Register of mines and minerals, with map, of Nevada County, by Charles E. Uren. 18 pp.

ISSUED DURING ADMINISTRATION OF LEWIS E. AUBURY.

Register of mines and minerals, with map, of Lake County, by George Madeira. Data collected November, 1901. 14 pp.

Register of mines and minerals, with map, of Placer County, by Ivan H. Parker. Data collected February, 1902. 21 pp.

Register of mines and minerals, with map, of El Dorado County, by J. F. Armstrong. Data collected April, 1902. Includes also an economic geological map of the county. 32 pp.

Register of mines and minerals, with map, of Shasta County, by M. E. Dittmar. Data collected March, 1902. 27 pp.

Register of mines and minerals, with map, of Inyo County, by A. V. Davidson. Data collected March, 1902. 24 pp.

Register of mines and minerals, with map, of San Bernardino County, by G. E. Bailey. Data collected July, 1902. Also contains map of the mountains of San Bernardino County, and list of elevations. 35 pp.

Register of mines and minerals, with map, of San Diego County, by I. A. Hubon. Data collected October, 1902. List of elevations. 15 pp.

Register of oil wells in Los Angeles County, with map, by Charles A. Blackmar. Data collected April, 1903. 13 pp.

Register of mines and minerals, with map, of Sierra County, by George F. Taylor. Data collected June, 1903. Also economic geological map of western half of county. 24 pp.

Register of mines and minerals, with map, of Tuolumne County, by R. P. McLaughlin. Data collected July, 1903. Also economic geological map of southwestern portion of county, and table of elevations. 24 pp.

Register of mines and minerals, with map, of Amador County, by John B. Tregloan. Data collected August, 1903. Also economic geological map of west half of county. 17 pp.

Register of mines and minerals, with map, of Mariposa County, by E. M. Wilkinson. Data collected December, 1903. Also economic geological map of northwestern portion of county, and list of elevations. 19 pp.

Register of mines and minerals, with map, of Butte County, by W. E. Thorne. Data collected December, 1903. Also map of dredging lands adjacent to Feather River, and list of elevations. 13 pp.

Register of mines and minerals, with map, of Kern County, by Marion Aubury. Data collected January, 1904. Also map of Kern River oil field, by P. W. Prutzman; map of McKittrick oil field, by P. W. Prutzman; map of Midway oil field, by P. W. Prutzman; map of Summit oil field, by P. W. Prutzman. 37 pp.

Register of mines and minerals, with map, of Yuba County, by Lew B. Harris. Data collected October, 1905. Also economic geological map of county and map of dredging lands near Oroville. 20 pp.

Register of mines and minerals, with map, of Santa Barbara County, by Lew B. Harris. Data collected March, 1906. Also map of Summerland oil field; map of Santa Maria oil field; map of Los Alamos oil field. 12 pp.

APPENDIX.



FERRY BUILDING, SAN FRANCISCO, ONE HALF THE UPPER FLOOR OF WHICH IS OCCUPIED BY THE STATE MINING BUREAU.
(This building is constructed of Colusa Sandstone and the reconstructed tower is of reinforced concrete.)

CALIFORNIA STATE MINING BUREAU.

This institution aims to be the chief source of reliable information about the mineral resources and mining industries of California.

It is encouraged in its work by the fact that its publications have been in such demand that large editions are soon exhausted. In fact, copies of them now command high prices in the market.

The publications, as soon as issued, find their way to the scientific, public, and private libraries of all countries.

STATE MINERALOGIST.

The California State Mining Bureau is under the supervision of Hon. Lewis E. Aubury, State Mineralogist.

It is supported by legislative appropriations, and in some degree performs work similar to that of the geological surveys of other states; but its purposes and functions are mainly practical, the scientific work being clearly subordinate to the economic phases of the mineral field, as shown by the organic law governing the Bureau, which is as follows:

SEC. 4. It shall be the duty of said State Mineralogist to make, facilitate, and encourage special studies of the mineral resources and mineral industries of the State. It shall be his duty: To collect statistics concerning the occurrence of the economically important minerals and the methods pursued in making their valuable constituents available for commercial use; to make a collection of typical geological and mineralogical specimens, especially those of economic or commercial importance, such collection constituting the Museum of the State Mining Bureau; to provide a library of books, reports, drawings, bearing upon the mineral industries, the sciences of mineralogy and geology and the arts of mining and metallurgy, such library constituting the Library of the State Mining Bureau; to make a collection of models, drawings, and descriptions of the mechanical appliances used in mining and metallurgical processes; to preserve and so maintain such collections and library as to make them available for reference and examination, and open to public inspection at reasonable hours; to maintain, in effect, a bureau of information concerning the mineral industries of this State, to consist of such collections and library, and to arrange, classify, catalogue, and index the data therein contained, in a manner to make the information available to those desiring it, and to provide a custodian specially qualified to promote this purpose; to make a biennial report to the Board of Trustees of the Mining Bureau, setting forth the important results of his work, and to issue from time to time such bulletins as he may deem advisable concerning the statistics and technology of the mineral industries of this State.

THE BULLETINS.

The field covered by the books issued under this title is shown in the list of publications. Each bulletin deals with only one phase of mining. Many of them are elaborately illustrated with engravings and maps. Only a nominal price is asked, in order that those who need them most may obtain a copy.

THE REGISTERS OF MINES.

The Registers of Mines form practically both a State and County directory of the mines of California, each county being represented in a separate pamphlet. Those who wish to learn the essential facts about any particular mine are referred to them. The facts and figures are given in tabular form, and are accompanied by a topographical map of the county on a large scale, showing location of each mineral deposit, towns, railroads, roads, power lines, ditches, etc.

HOME OF THE BUREAU.

The Mining Bureau occupies the north half of the third floor of the Ferry Building, in San Francisco. All visitors and residents are invited to inspect the Museum, Library, and other rooms of the Bureau and gain a personal knowledge of its operations.

THE MUSEUM.

The Museum now contains over 16,000 specimens, carefully labeled and attractively arranged in showcases in a great, well-lighted hall, where they can be easily studied. The collection of ores from California mines is of course very extensive, and is supplemented by many cases of characteristic ores from the principal mining districts of the world. The educational value of the exhibit is constantly increased by substituting the best specimens obtainable for those of less value.

These mineral collections are not only interesting, beautiful, and in every way attractive to the sightseers of all classes, but are also educational. They show to manufacturers, miners, capitalists, and others the character and quality of the economic minerals of the State, and where they are found. Plans have been formulated to extend the usefulness of the exhibit by special collections, such as one showing the chemical composition of minerals; another showing the mineralogical composition of the sedimentary, metamorphic, and igneous rocks of the State; the petroleum-bearing formations, ore bodies, and their country rocks, etc.

Besides the mineral specimens, there are many models, maps, photographs, and diagrams illustrating the modern practice of mining, milling, and concentrating, and the technology of the mineral industries. An educational series of specimens for high schools has been inaugurated, and new plans are being formulated that will make the Museum even more useful in the future than in the past. Its popularity is shown by the fact that over 100,000 visitors registered last year, while many failed to leave any record of their visit.



MINERAL MUSEUM, CALIFORNIA STATE MINING BUREAU.

THE LIBRARY.

This is the mining reference library of the State, constantly consulted by mining men, and contains between 4,000 and 5,000 volumes of selected works, in addition to the numerous publications of the Bureau itself. On its shelves will be found reports on geology, mineralogy, mining, etc., published by states, governments, and individuals; the reports of scientific societies at home and abroad; encyclopædias, scientific papers, and magazines; mining publications; and the current literature of mining ever needed in a reference library.

Manufacturers' catalogues of mining and milling machinery by California firms are kept on file. The Registers of Mines form an up-to-date directory for investor and manufacturer.

The librarian's desk is the general bureau of information, where visitors from all parts of the world are ever seeking information about all parts of California.

READING-ROOM.

This is a part of the Library Department and is supplied with over one hundred current publications. Visitors will find here various California papers and leading mining journals from all over the world.

The Library and Reading-Room are open to the public from 9 A. M. to 5 P. M. daily, except Sundays and holidays, and from 9 A. M. to 12 M. on Saturdays.

THE LABORATORY.

This department identifies for the prospector the minerals he finds, and tells him the nature of the wall rocks or dikes he may encounter in his workings; but this department *does not* do assaying nor compete with private assayers. The presence of minerals is determined, but not the percentage present. No charges for this service are made to any resident of the State. Many of the inquiries made of this department have brought capital to the development of new districts. Many technical questions have been asked and answered as to the best chemical and mechanical processes of handling ores and raw material. The laboratory is well equipped.

THE DRAUGHTING-ROOM.

In this room are prepared scores of maps, from the small ones filling only a part of a page, to the largest County and State maps; and the numerous illustrations, other than photographs, that are constantly being required for the Bulletins and Registers of Mines. In this room, also, will be found a very complete collection of maps of all kinds



LIBRARY AND FREE READING-ROOM, CALIFORNIA STATE MINING BUREAU.

relating to the industries of the State, and one of the important duties of the department is to make such additions and corrections as will keep the maps up to date. The seeker after information inquires here if he wishes to know about the geology or topography of any district; about the locations of the new camps, or positions of old or abandoned ones; about railroads, stage roads, and trails; or about the working drawings of anything connected with mining.

MINERAL STATISTICS.

One of the features of this institution is its mineral statistics. Their annual compilation by the State Mining Bureau began in 1893. No other State in the Union attempts so elaborate a record, expends so much labor and money on its compilation, or secures so accurate a one.

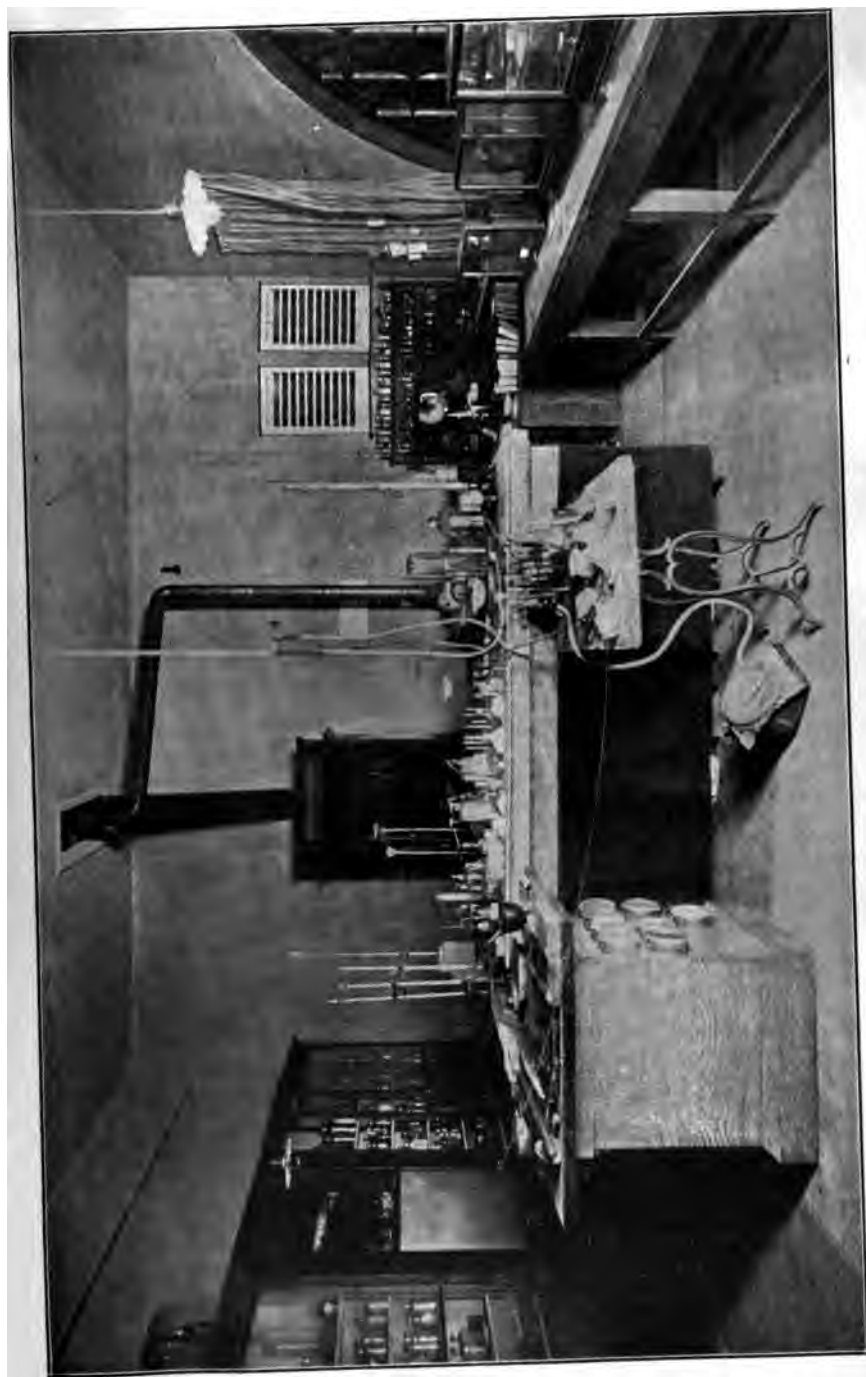
The State Mining Bureau keeps a careful, up-to-date, and reliable but confidential register of every producing mine, mine-owner, and mineral industry in the State. From them are secured, under pledge of secrecy, reports of output, etc., and all other available sources of information are used in checking, verifying, and supplementing the information so gained. This information is published in an annual tabulated, statistical, single-sheet bulletin, showing the mineral production by both substances and counties.

TOTAL GOLD PRODUCT OF CALIFORNIA—1848-1905.

1848.....	\$245,301	1863.....	\$23,501,736	1878.....	\$18,839,141	1893.....	\$12,422,811
1849.....	10,151,360	1864.....	24,071,423	1879.....	19,626,654	1894.....	13,923,281
1850.....	41,273,106	1865.....	17,930,858	1880.....	20,030,761	1895.....	15,334,317
1851.....	75,938,232	1866.....	17,123,867	1881.....	19,223,155	1896.....	17,181,562
1852.....	81,294,700	1867.....	18,265,452	1882.....	17,146,416	1897.....	15,871,401
1853.....	67,613,487	1868.....	17,553,867	1883.....	24,316,873	1898.....	15,906,478
1854.....	69,433,931	1869.....	18,229,044	1884.....	13,600,000	1899.....	15,336,031
1855.....	55,485,385	1870.....	17,458,133	1885.....	12,661,044	1900.....	15,863,355
1856.....	57,509,411	1871.....	17,477,885	1886.....	14,716,506	1901.....	16,989,044
1857.....	43,628,172	1872.....	15,482,194	1887.....	13,588,614	1902.....	16,910,320
1858.....	46,591,140	1873.....	15,019,210	1888.....	12,750,000	1903.....	16,471,264
1859.....	45,846,509	1874.....	17,264,836	1889.....	11,212,913	1904.....	19,109,600
1860.....	44,065,163	1875.....	16,876,009	1890.....	12,509,793	1905.....	19,197,043
1861.....	41,884,995	1876.....	15,610,723	1891.....	12,728,869		
1862.....	38,854,068	1877.....	19,501,268	1892.....	12,571,900	Total.....	\$1,434,053,311

COUNTY RANK IN GOLD PRODUCT IN 1905.

While gold is still the leading mining product, its yield no longer puts the greatest gold-producing county in the first place. The petroleum of Kern County and the copper of Shasta give them precedence. Gold is more widely distributed than any other substance thus far mined in California; 34 counties out of the 57 in the State showing a gold yield in 1905, and it is known to exist in several others. The order



LABORATORY, CALIFORNIA STATE MINING BUREAU.

in rank of the counties of the State, in the production of gold alone, is at present as follows:

1. Nevada.....	\$3,179,715	14. Mariposa.....	\$386,300	27. Del Norte.....	\$10,580
2. Butte.....	2,607,500	15. El Dorado.....	384,735	28. Monterey.....	4,000
3. Amador.....	2,445,815	16. Yuba.....	324,135	29. Tulare.....	2,300
4. Calaveras.....	1,736,816	17. Mono.....	308,884	30. Ventura.....	1,200
5. Tuolumne.....	1,291,726	18. Plumas.....	283,810	31. Santa Barbara.....	725
6. Kern.....	1,160,971	19. Inyo.....	135,959	32. Alpine.....	575
7. Siskiyou.....	803,035	20. San Diego.....	109,712	33. San Luis Obispo.....	300
8. Trinity.....	690,844	21. Madera.....	50,867	34. Mendocino.....	40
9. Shasta.....	684,952	22. Stanislaus.....	50,000	Undistributed.....	147,500
10. Sacramento.....	668,382	23. Humboldt.....	45,824		
11. Placer.....	597,793	24. Fresno.....	40,037	Total.....	\$19,197,043
12. Sierra.....	517,903	25. Riverside.....	35,690		
13. S. Bernardino.....	473,893	26. Los Angeles.....	15,035		

TOTAL MINERAL PRODUCT OF CALIFORNIA FOR 1905.

The following table shows the yield and value of mineral substances of California for 1905, as per returns received at the State Mining Bureau, San Francisco, in answer to inquiries sent to producers:

	Quantity.	Value.
Asbestos.....	112 tons	\$2,625
Asphalt.....	40,304 "	285,290
Bituminous Rock.....	24,753 "	60,436
Borax.....	46,334 "	1,019,158
Cement.....	1,265,553 bbls.	1,791,916
Chrome.....	40 tons	600
Clays (Brick).....	286,618 M	2,273,786
Clays (Pottery).....	133,805 tons	130,146
Coal.....	46,500 "	144,500
Copper.....	16,997,489 lbs.	2,650,605
Fuller's Earth.....	1,344 tons	38,000
Gems.....		148,500
Glass Sand.....	9,257 "	8,121
Gold.....		19,197,043
Granite.....	228,788 cu. ft.	353,837
Gypsum.....	12,850 tons	54,500
Infusorial Earth.....	3,000 "	15,000
Lead.....	533,680 lbs.	25,063
Lime.....	616,995 bbls.	555,322
Limestone.....	192,749 tons	323,325
Lithia Mica.....	25 "	276
Macadam.....	1,440,455 "	942,503
Magnesite (Crude).....	3,933 "	16,221
Marble.....	73,303 cu. ft.	129,450
Mineral Paint.....	754 tons	4,025
Mineral Water.....	2,194,150 gals.	538,700
Natural Gas.....	148,345 M cu. ft.	102,479
Paving Blocks.....	3,408 M	134,347
Petroleum.....	34,275,701 bbls.	9,007,820
Platinum.....	200 oz.	3,320
Pyrites.....	15,503 tons	63,958
Quicksilver.....	24,655 flasks	886,081
Rubble.....	1,183,802 tons	774,267
Salt.....	77,118 "	141,925
Sandstone.....	302,813 cu. ft.	483,268
Silver.....		678,494
Slate.....	4,000 squares	40,000
Soapstone.....	300 tons	3,000
Soda.....	15,000 "	22,500
Tungsten.....	52 "	18,800
Total value.....		\$43,069,227

MINING BUREAU PUBLICATIONS.

Publications of this Bureau will be sent on receipt of the requisite amount and postage. Only stamps, coin or money orders will be accepted in payment. (*All publications not mentioned are exhausted.*)

Attention is respectfully called to that portion of Section 8, amendment to the Mining Bureau Act, approved March 10, 1903, which states:

"The Board (Board of Trustees) is hereby empowered to fix a price upon, and to dispose of to the public, at such price, any and all publications of the Bureau, including reports, bulletins, maps, registers, etc. The sum derived from such disposition must be accounted for and used as a revolving printing and publishing fund for other reports, bulletins, maps, registers, etc. The prices fixed must approximate the actual cost of printing and issuing the respective reports, bulletins, maps, registers, etc., without reference to the cost of obtaining and preparing the information embraced therein."

	Price.	Postage.
Report XI—1892, First Biennial.....	\$1 00	\$0 15
Report XIII—1896, Third Biennial.....	1 00	20
Bulletin No. 6—"Gold Mill Practices in California" (3d edition) ..	50	04
Bulletin No. 9—"Mine Drainage, Pumps, Etc." bound.....	60	08
Bulletin No. 15—"Map of Oil City Oil Fields, Fresno County, California"	05	02
Bulletin No. 16—"Genesis of Petroleum and Asphaltum in California" (3d edition).....	30	03
Bulletin No. 23—"Copper Resources of California".....	50	12
Bulletin No. 24—"Saline Deposits of California".....	50	10
Bulletin No. 27—"Quicksilver Resources of California".....	75	08
Bulletin No. 30—"Bibliography Relating to the Geology, Palæontology and Mineral Resources of California," including List of Maps.	50	10
Bulletin No. 31—"Chemical Analysis of California Petroleum".....	..	02
Bulletin No. 32—"Production and Use of California Petroleum"....	75	08
Bulletin No. 36—"Gold Dredging in California" (2d edition)....	50	08
Bulletin No. 37—"Gems and Jewelers' Materials of California" (2d edition).....	50	08
Bulletin No. 38—"Structural and Industrial Materials of California"	75	20
Bulletin No. 39—"Mineral Production of California"—1904.....	..	02
Bulletin No. 41—"Mines and Minerals of California"—1904.....	..	04
Bulletin No. 42—"Mineral Production of California"—1905.....	..	02
Bulletin No. 43—"Mineral Production of California for Nineteen Years"	02
Bulletin No. 44—"Mines and Minerals of California"—1905.....	..	04
Bulletin No. 45—"The Auriferous Black Sands of California".....	10	02
Gold Production in California from 1848 to 1906.....	..	02
Register of Mines, with Map, Amador County.....	25	08
Register of Mines, with Map, Butte County.....	25	08
Register of Mines, with Map, El Dorado County.....	25	08
Register of Mines, with Map, Inyo County.....	25	08
Register of Mines, with Map, Kern County.....	25	08
Register of Mines, with Map, Lake County.....	25	08
Register of Mines, with Map, Mariposa County.....	25	08
Register of Mines, with Map, Nevada County.....	25	08
Register of Mines, with Map, Placer County.....	25	08
Register of Mines, with Map, San Bernardino County.....	25	08
Register of Mines, with Map, San Diego County.....	25	08
Register of Mines, with Map, Santa Barbara County.....	25	08
Register of Mines, with Map, Shasta County.....	25	08

MINING BUREAU PUBLICATIONS—Continued.

	Price.	Postage.
Register of Mines, with Map, Sierra County.....	\$0 25	\$0 08
Register of Mines, with Map, Siskiyou County.....	25	08
Register of Mines, with Map, Trinity County.....	25	08
Register of Mines, with Map, Tuolumne County.....	25	08
Register of Mines, with Map, Yuba County.....	25	08
Register of Oil Wells, with Map, Los Angeles City.....	35	02
Map of Mother Lode.....	05	02
Map of Desert Region of California.....	10	02
Map Showing Copper Deposits in California.....	05	02
Map of Calaveras County.....	25	08
Map of Plumas County.....	25	08
Mineral and Relief Map of California.....	25	05
Map of Forest Reserves in California (mounted).....	50	08
Map of Forest Reserves in California (unmounted).....	30	06
California Mine Bell Signals (cardboard).....	05	02
California Mine Bell Signals (paper).....	03	02

Samples (limited to three at one time) of any mineral found in the State may be sent to the Bureau for identification, and the same will be classified free of charge. It must be understood, however, that *no assays, or quantitative determinations, will be made.* Samples should be in lump form if possible, and the outside of package should be marked plainly with name of sender, postoffice address, etc. A letter should accompany samples, and a stamp should be inclosed for reply.

**LAW RELATING TO MISREPRESENTATION OF MINES BY ANY OFFICER OF
A CORPORATION TRANSACTING BUSINESS IN CALIFORNIA.**

SECTION 1. Any superintendent, director, secretary, manager, agent, or other officer, of any corporation formed or existing under the laws of this State, or transacting business in the same, and any person pretending or holding himself out as such superintendent, director, secretary, manager, agent or other officer, who shall willfully subscribe, sign, endorse, verify, or otherwise assent to the publication, either generally or privately, to the stockholders or other persons dealing with such corporation or its stock, any untrue or willfully and fraudulently exaggerated report, prospectus, account, statement of operations, values, business, profits, expenditures or prospects, or other paper or document intended to produce or give, or having a tendency to produce or give, to the shares of stock in such corporation a greater value or less apparent or market value than they really possess, or with the intention of defrauding any particular person or persons, or the public, or persons generally, shall be deemed guilty of a felony, and on conviction thereof shall be punished by imprisonment in State prison, or a county jail, not exceeding two years, or by fine not exceeding five thousand dollars, or by both.

SEC. 2. All Acts and parts of Acts in conflict with this Act are hereby repealed.

Approved March 22, 1905.





6

**CALIFORNIA
MINES AND
MINERALS**

STAMP
S
M
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BULLETIN No. 4

. . . Issued by the

**CALIFORNIA
MINING BUREAU**

FERRY BUILDING
San Francisco, Cal.

under the direction of

LEWIS E. AUBREY
State Mining Engineer

Printed at the State Printing Office, Sacramento
W. W. SHANNON, Superintendent . . .



TOTAL MINERAL PRODUCT OF CALIFC

The following table shows the yield and value of mineral sub received at the State Mining Bureau, San Francisco, in answer to inqu

	QUANTITY.	VALUE.	
Asbestos	70 tons	\$3,500	Magnesite
Asphalt	77,756 "	777,560	Marble....
Bituminous Rock.....	16,077 "	45,204	Mineral P
Borax (Crude).....	58,173 "	1,182,410	Mineral V
Cement	1,286,000 bbls.	1,941,250	Natural G
Chrome	317 tons	2,859	Paving Bl
Clays (Brick)....	277,762 M	2,538,848	Petroleum
Clays (Pottery).....	167,267 tons	162,283	Platinum
Coal	24,850 "	61,600	Pyrites...
Copper.....	28,726,448 lbs.	5,522,712	Quicksilve
Fuller's Earth	440 tons	10,500	Rubble....
Gems	-----	497,090	Salt
Glass Sand.....	9,750 "	13,375	Sandstone
Gold	-----	18,732,452	Serpentine
Granite	329,810 cu. ft.	344,083	Silver (
Gypsum.....	21,000 tons	69,000	value) .
Infusorial Earth	2,430 "	14,400	Slate.....
Lead	338,718 lbs.	19,307	Soda.....
Lime	689,268 bbls.	763,060	Tungsten.
Limestone	80,262 tons	162,827	Zinc
Macadam	1,066,164 tons	870,887	
Manganese	1 ton	30	Tota



petroleum. Bituminous rock was quarried in San Luis Obispo and Santa San Bernardino. and Ventura counties. Brick clays were utilized in the counties of Humboldt, Kern, Kings, Los Angeles, Marin, Mendocino, Merced, Orange, San Diego, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Tulare, and Ventura. Clay for pottery came from Alameda, Amador, Calaveras, and Santa Clara counties. Portland cement was manufactured in Napa and mined in Calaveras, Tuolumne, and Shasta counties. Coal was mined in Alameda and per was produced in the counties of Amador, Calaveras, Fresno, Inyo, and Kern. All the fuller's earth came from Kings and Kern counties. Glass sand was mined in Monterey counties. Gold was mined in thirty-five counties of the State and Granite was quarried for building purposes, curbing, etc., in the counties of San Bernardino, San Luis Obispo, San Diego, Tulare, and Tuolumne. Gypsum was mined from Inyo, Orange, and San Bernardino counties. Infusorial earth was mined in Santa Barbara.

Lime was quarried and burned in the counties of Amador, Contra Costa, Placer, Riverside, San Bernardino, Santa Cruz, Shasta, and Tuolumne; and for cements, fluxes, paving, etc., in Calaveras, Kern, San Bernardino, Santa Barbara, San Luis Obispo, and Santa Cruz counties.

Marble was quarried in Inyo, San Bernardino, and Tuolumne counties. The counties of Alameda, Contra Costa, Los Angeles, Riverside, Sacramento, San Mateo, Santa Cruz, Solano, and Sonoma. The mineral paint came from San Plumas County. Magnesite was mined in Alameda and Tulare counties.

Mineral waters were bottled and sold from springs in the counties of



The following table shows the total gold yield of California, by 1848 to 1906, inclusive:

1848.....	\$245,301	1864.....	\$24,071,423	1880.....
1849.....	10,151,360	1865.....	17,930,858	1881.....
1850.....	41,273,106	1866.....	17,123,867	1882.....
1851.....	75,938,232	1867.....	18,265,452	1883.....
1852.....	81,294,700	1868.....	17,555,867	1884.....
1853.....	67,613,487	1869.....	18,229,044	1885.....
1854.....	69,433,931	1870.....	17,458,133	1886.....
1855.....	55,485,395	1871.....	17,477,885	1887.....
1856.....	57,509,411	1872.....	15,482,194	1888.....
1857.....	43,628,172	1873.....	15,019,210	1889.....
1858.....	46,591,140	1874.....	17,264,836	1890.....
1859.....	45,846,599	1875.....	16,876,009	1891.....
1860.....	44,095,163	1876.....	15,610,723	1892.....
1861.....	41,884,995	1877.....	16,501,268	1893.....
1862.....	38,854,668	1878.....	18,839,141	1894.....
1863.....	23,501,736	1879.....	19,626,654	1895.....

BANNER COUNTIES IN DIFFERENT MINERAL

As far as the "banner" counties in the different mineral products for 1906, with the value of the material in which the county leads. It substances are put under the heading of "unapportioned," which includes] conceal their identity. For this reason it is necessary to put under this fuller's earth, magnesite, lead, zinc, some gold and silver, and a few



CLAYS—BRICK—Continued.		QUANTITY.	VALUE.
San Luis Obispo County	300	M	\$2,400
San Mateo County	6,613	"	67,000
Santa Barbara County	200	"	1,600
Santa Clara County	23,397	"	183,676
Shasta County	4,400	"	22,000
Sonoma County	6,800	"	115,000
Tehama County	700	"	5,600
Tulare County	1,500	"	12,000
Ventura County	1,675	"	11,650
Totals		277,762	\$2,538,848
CLAYS—POTTERY.			
Alameda County	10,000	tons	\$10,000
Amador County	26,789	"	28,119
Calaveras County	50	"	50
Kern County	215	"	752
Los Angeles County	41,350	"	34,250
Orange County	7,740	"	12,900
Placer County	20,000	"	15,000
Riverside County	60,123	"	59,712
Santa Clara County	1,000	"	1,500
Totals		167,267	\$162,283
COAL.			
Unapportioned	24,850	tons	\$61,600

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QUANTITY AND VALUE OF MINERAL PRODUCT

INFUSORIAL EARTH.			QUANTITY.	VALUE.	LIMESTONE
Los Angeles County	50 tons	\$200			Calaveras
Monterey County	80 "	400			San Luis Obispo
Santa Barbara County	2,300 "	13,800			Santa Barbara
Totals	2,430 "	\$14,400			Santa Cruz
LEAD.					Shasta
Inyo County	208,018 lbs.	\$11,857			Tulare
Orange and San Bernardino Counties (Unap.)	130,700 "	7,450			
Totals	338,718 "	\$19,307			MACADAMIA
LIME.					Alameda
Amador County	1,000 bbls.	\$1,200			Contra Costa
El Dorado County	19,217 "	2,138			River
Kern County	295,613 "	267,096			Sacramento
Los Angeles County	18,000 "	18,000			San Luis Obispo
Monterey County	40,000 "	50,000			San Luis Obispo
Placer County	11,699 "	11,950			Santa Cruz
Riverside County	14,000 "	20,000			Santa Cruz
San Bernardino County	20,910 "	17,146			Solar
Santa Cruz County	255,469 "	347,490			Sonoma
Shasta County	12,860 "	8,040			
Tuolumne County	500 "	1,000			
Totals	689,268 "	\$763,060			MAGNESIUM
					Unapplied



QUANTITY AND VALUE OF MINERAL PRODUCTS

PLATINUM.			RUBBLE.		
	QUANTITY.	VALUE.			
Butte County	26.4 oz.	\$475	Alameda		
Calaveras County	13.9 "	250	Los Angeles		
Humboldt County	30.8 "	555	Marin County		
Placer County	0.66 "	12	Napa County		
Plumas County	1.4 "	25	Placer County		
Sacramento County	11.1 "	200	Riverside		
Trinity County	7.2 "	130	Sacramento		
Total	91.46 "	\$1,647	San Bernardino		
			San Diego		
			San Francisco		
			San Mateo		
			Santa Barbara		
			Solano County		
			Total		
PYRITES.			SALT.		
Alameda County	14,000 tons	\$56,000	Alameda		
Shasta County	32,689 "	89,895	Colusa		
Total	46,689 "	\$145,895	Los Angeles		
			Marin County		
			San Mateo		
			San Diego		
			Total		
QUICKSILVER.			SODA.		
Lake County	1,066 flasks.	\$38,909	Unapprop.		
Napa County	2,380 "	86,870			
San Benito County	7,203 "	262,909			
San Luis Obispo Co.	3,511 "	128,152			
Santa Clara County	2,592 "	94,608			
Solano County	528 "	19,272			
Sonoma County	2,070 "	75,555			
Trinity County	166 "	6,059			
Totals	19,516 "	\$712,334			



ASSESSED VALUATION, AREA, AND POPULATION

	Assessed Valuation 1907	Area, in Square Miles.	Population 1900.	
Alameda County	\$176,817,591	840	130,197	Placer County
Alpine County	507,652	575	509	Plumas County
Amador County	5,890,793	568	11,116	Riverside County
Butte County	19,694,361	1,764	17,117	Sacramento County
Calaveras County	6,493,727	990	11,300	San Benito County
Colusa County	13,073,699	1,080	7,364	San Bernardino County
Contra Costa County	27,122,288	750	18,046	San Diego County
Del Norte County	3,603,490	1,546	2,408	San Francisco County
El Dorado County	5,722,655	1,891	8,986	San Joaquin County
Fresno County	46,923,383	5,940	37,962	San Luis Obispo County
Glenn County	11,949,561	1,400	5,150	San Mateo County
Humboldt County	28,242,910	3,507	27,104	Santa Barbara County
Inyo County	3,501,476	10,224	4,377	Santa Clara County
Kern County	30,149,898	8,159	16,480	Santa Cruz County
Kings County	9,045,504	1,257	9,871	Shasta County
Lake County	3,657,340	1,532	6,017	Sierra County
Lassen County	5,841,533	4,760	4,511	Siakiyon County
Los Angeles County	384,051,746	3,957	170,298	Solano County
Madera County	8,458,229	2,140	6,364	Sonoma County
Marin County	16,515,214	516	15,702	Stanislaus County
Mariposa County	2,342,192	1,580	4,720	Sutter County
Mendocino County	14,571,522	3,460	20,465	Tehama County
Merced County	17,699,940	1,750	9,215	Trinity County
Modoc County	4,926,148	4,097	5,076	Tulare County
Mono County	1,225,044	2,796	2,167	Tuolumne County
Monterey County	23,217,230	3,450	19,380	Ventura County
Napa County	14,997,460	600	16,451	Yolo County
Nevada County	7,806,352	968	17,789	Yuba County
Orange County	18,411,915	780	19,686	
				Totals....

* Report of the State Controller.

(17)



COUNTY MINERAL PRODUCTS AND VAL

NEVADA COUNTY.		QUANTITY.	VALUE.	PLUMAS COUN	
Gold			\$2,658,420	Platinum	
Granite		9,525 cu. ft.	9,300	Silver....	
Silver			24,219		
			<hr/>		
			\$2,691,939	RIVERSIDE C	
ORANGE COUNTY.				Brick	
Brick		1,365 M	\$13,500	Clay	
Clay		7,740 tons	12,900	Gems	
Petroleum		2,388,000 bbls.	1,194,000	Gold	
			<hr/>	Granite ..	
			\$1,220,400	Lime	
PLACER COUNTY.				Macadam	
Asbestos		50 tons	\$2,500	Paving Bl	
Clay		20,000 "	15,000	Rubble...	
Copper		200,000 lbs.	38,600	Silver....	
Granite		52,508 cu. ft.	66,030		
Lime		11,699 bbls.	11,950	SACRAMENTO	
Platinum		0.660 oz.	12	Brick	
Rubble		5,300 tons	5,100	Gold	
			<hr/>	Granite ..	
			\$139,192	Macadam	
PLUMAS COUNTY.				Natural G	
Gold			\$229,350	Platinum	
Manganese		1 ton	30	Rubble ..	
				Silver....	



VALUE OF MINERAL PRODUCTS BY COUNTIES FOR

TRINITY COUNTY.		TUOLUMNE COUNTY.		YOLO COUNTY	
1894....	\$1,017,990 84	1894....	\$548,520 22	1894....	
1895....	1,305,412 41	1895....	667,066 77	1895....	
1896....	1,435,365 30	1896....	1,070,470 13	1896....	
1897....	1,107,961 00	1897....	1,811,268 00	1897....	
1898....	1,010,769 00	1898....	1,757,735 00	1898....	
1899....	715,595 00	1899....	1,650,880 00	1899....	
1900....	698,689 00	1900....	1,659,258 00	1900....	
1901....	752,280 00	1901....	1,710,171 00	1901....	
1902....	731,261 00	1902....	1,830,329 00	1902....	
1903....	621,244 00	1903....	1,791,056 00	1903....	
1904....	579,088 00	1904....	1,615,320 00	1904....	
1905....	708,255 00	1905....	1,389,774 00	1905....	
1906....	570,013 00	1906....	1,106,230 00	1906....	
	\$11,253,925 55		\$18,608,078 12		
TULARE COUNTY.		VENTURA COUNTY.		YUBA COUNTY	
1894....	\$10,000 00	1894....	\$372,622 00	1894....	
1895....	18,820 00	1895....	264,624 00	1895....	
1896....	25,752 00	1896....	292,800 00	1896....	
1897....	22,544 00	1897....	368,282 00	1897....	
1898....	15,900 00	1898....	654,063 00	1898....	
1899....	20,810 00	1899....	613,450 00	1899....	
1900....	21,566 00	1900....	476,161 00	1900....	
1901....	69,526 00	1901....	350,570 00	1901....	
1902....	62,398 00	1902....	483,986 00	1902....	
1903....	41,175 00	1903....	714,766 00	1903....	
1904....	36,200 00	1904....	546,837 00	1904....	
1905....	32,313 00	1905....	345,093 00	1905....	
1906....	230,810 00	1906....	205,942 00	1906....	
	\$607,814 00		\$5,689,196 00		

A hand-drawn map of Fresno County, California, showing its boundaries with Merced, Madera, Kings, and Monterey counties. The map features major roads, towns, and distances. Key towns include Fresno, Madera, and Hanford. Distances are marked along the roads, such as 18 miles from Hanford to Madera and 10 miles from Madera to Fresno. The map is signed "Copyrighted." at the bottom left.